PROVIDING SECURITY, IMMUTABILITY AND TRANSPARENCY TO VOTING SYSTEM USING BLOCKCHAIN TECHNOLOGY

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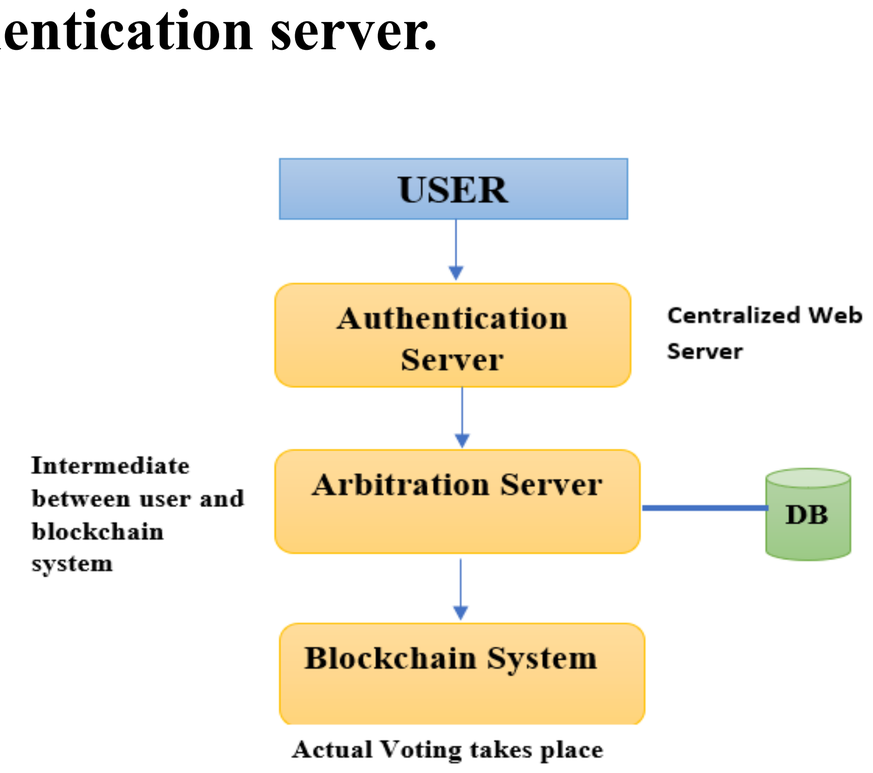
Abstract:

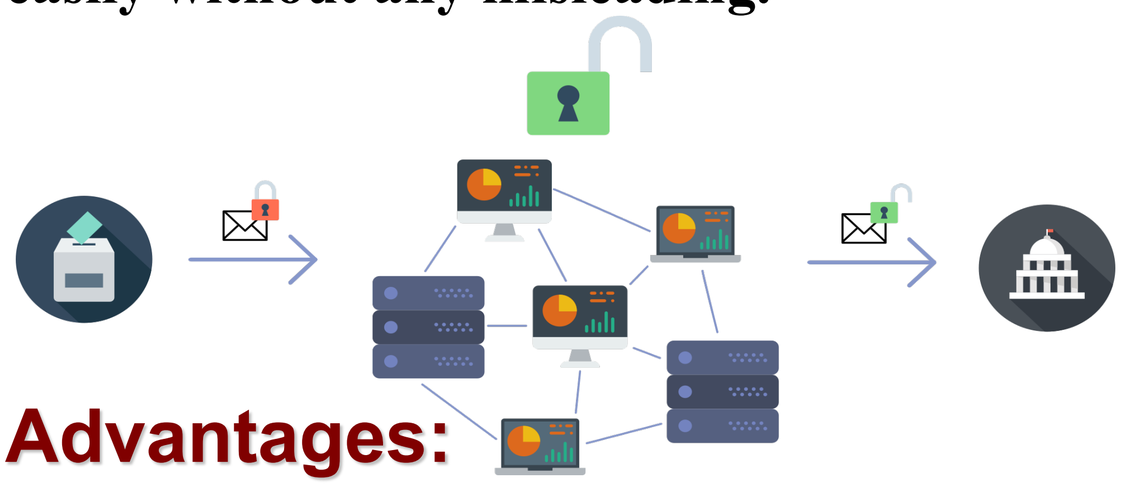
Today's election system is one of the most suffered problem in many countries. Rigging of votes and unsecured electronic voting machine (EVM), changing of votes, and polling booth capturing are the concerned issues that are to be addressed in present voting system. Blockchain technology is the solution to overcome these problems and to provide a safe voting system. As this technology is booming with a solution to provide security, integrity and authentication to many other fields, Voting system can be implemented using this blockchain technology for a safe and secure future. Voters can gain security and belief in the voting system.

Architecture:

The proposed system contains a two-layer architecture with blockchain. The necessity is to have a device with active internet connection. People interact with the web server which is linked to the database and the authentication of users takes place in this layer by verifying all the details of the users. Users need to open a blockchain account which they will utilize to cast their vote. Every vote can be treated as a transaction and it is attached to the blockchain node. There is no possibility for a third party to break into the system and modify or hack the votes. A server assists as an interface between user and the blockchain connecting through intermediate authentication server.



A user provides a proof of their documents for the personal information details they provide. In order to maintain the authenticity, a snapshot of their image is captured. Every candidate is provided an account on the blockchain to receive their votes on the day of election. User can sign into their blockchain account and cast their vote to the candidate of their choice and vote counting can be done easily without any misleading.



Advantages:

There is no chance of manipulating or adding additional fake votes. It is secure and safe and increases the convenience of users. Counting of votes does not take huge time. It is budget friendly.

Conclusion:

The proposed system ensures every single vote is counted and provides transparency to the voters. This system is secure and addresses a solution for today's voting system problems. It is one-time investment and is the future.